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EXAMINER

PATEL, CHIRAG R

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/751,373	<b>Applicant(s)</b> RADHA, HAYDER	
	<b>Examiner</b> CHIRAG R. PATEL	<b>Art Unit</b> 2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-16 and 22-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-16 and 22-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **Response to Arguments**

Applicant's arguments filed September 17, 2008 have been fully considered but they are not persuasive. The 101 rejections are removed.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Examiner asserts the server (Col 19 lines 24-35) acts an intermediate network node which perform the function of transcaling the bit stream. The server is operable to receive input stream from the network (Fig. 3: item 64), and output the encoded transcaled stream to the network nodes (Col 2 lines 27-40).

Examiner point out that Wu discloses decoding and then encoding a scalable bit stream at the same network node. Examiner asserts that the motion estimator (Col 19 line 59-Col 20 line 7) functions as the decoder for the incoming bit stream. The encoder then encodes or transcales the original bit stream. (Col 19 lines 50-58).

### **Claim Objections**

Claim 36 is objected to because of the following informalities: Claim 36 claims original base layer twice, "the original scalable bit stream having an original base layer and an original base layer." Examiner suggests changing it to "original base layer and an original enhancement layer". Appropriate correction is required.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9-12, 14-16, 22-24, 29-30, 32-45, and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. – hereinafter Wu (US 6,700,933).

As per claims 1 and 43, a network node comprising:

an input module operable to receive an original scalable bit stream from a different network node (Col 19 lines 25-35; Col 19 line 59 - Col 20 line 7) and having an original bandwidth range, (Col 9 lines 27-37) the original bit stream having an original base layer and an original enhancement layer; (Col 5 line 63 – Col 6 line 10)

a transcaling module operable to decode the original scalable bit stream (Col 19 line 59 - Col 20 line 7; motion estimator functions as a decoder) and generate a new scalable bit stream based upon the original scalable bit stream and having a new bandwidth range, wherein the new scaleable bit stream having a new base layer that encodes at least a portion of the original enhancement layer therein and wherein the new bandwidth range corresponds to a range of bandwidth that is different from that of the original bandwidth range at least in that it has a new minimum bit rate that is different from an original minimum bit rate of the original bandwidth range; (Col 1 lines 50-67, Col 8 lines 15-49)

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and an output module operable to transmit said new scalable bit stream downstream. (Col 2 lines 27-40)

As per claims 2 and 44, Wu discloses the network node of claim 1, wherein said transcaling module comprises a decoder operable to decode at least a portion of the original scalable bit stream. (Col 15 lines 6-16)

As per claim 3, Wu discloses the network node of claim 2, wherein said decoder is operable to generate a first new enhancement layer and a second new enhancement layer by decoding a portion of the original enhancement layer, said transcaling module comprising a motion vector extraction module operable to extract motion vectors from the original base layer and operable to predict a next portion of said first new enhancement layer using the extracted original motion vectors. (Col 7 lines 17-35; Col 13 lines 33-46)

As per claim 4, Wu discloses the network node of claim 2, wherein said decoder is operable to generate a first new enhancement layer and a second new enhancement layer by decoding a portion of the original enhancement layer, said transcaling module comprising a motion vector generation module operable to predict a next portion of said first new enhancement layer by generating motion vectors for the first new enhancement layer. (Col 7 lines 17-35; Col 13 lines 33-46)

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As per claims 5 and 45, Wu discloses the network node of claim 2, wherein said decoder is operable to reconstruct original media by decoding the base layer and the enhancement layer, the network node comprising an encoder operable to produce the new scalable bit stream by encoding the reconstructed media. (Col 9 lines 39-48)

As per claim 9, Wu discloses the network node of claim 1 comprising a link evaluation module operable to evaluate bandwidth of links to downstream devices. (Col 1 lines 50-67, Col 8 lines 15-26)

As per claim 10, Wu discloses the network node of claim 1, wherein said transcaling module is operable to generate said new scalable bit stream having said new bandwidth range based on bandwidth of links to downstream devices. (Col 8 lines 15-26)

As per claim 11, Wu discloses the network node of claim 1, wherein said new bandwidth range is a reduced bandwidth range compared to the original bandwidth range. (Col 8 lines 15-26)

As per claim 12, Wu discloses the network node of claim 1, wherein said new minimum bit rate of said new bandwidth range is higher than said original minimum bit rate of said original bandwidth range. (Col 8 lines 15-26; Col 9 lines 27-38)

As per claim 14, Wu discloses the network node of claim 1, wherein a new maximum bit rate of said new scalable bit stream is lower than an original maximum bit rate of said original scalable bit stream. (Col 8 line 15-26; Col 9 lines 27-38)

As per claim 15, Wu discloses the network node of claim 1, wherein said original scalable bit stream has an original base layer and an original enhancement layer, and said transcaling module is operable to generate a new base layer and a new enhancement layer based on said original base layer and said original enhancement layer. (Col 12 lines 27-38)

As per claim 16, Wu discloses the network node of claim 1, wherein said original scalable bit stream has an original enhancement layer, and said transcaling module is operable to decode a portion of said original enhancement layer for one picture and predict a next picture based on said decoded portion. (Col 19 line 59 - Col 20 line 7)

As per claim 22, Wu discloses a transcaling system, comprising:  
an input module operable to receive an original scalable bit stream having an original base layer encoded at an original bit rate and an original enhancement layer encoded at a second original bit rate; (Col 5 line 53 – Col 6 line 10, Col 19 lines 25-35; Col 19 line 59 - Col 20 line 7,)

a decoder embodied as computer executable instructions on a computer readable medium that decodes at least a portion of the original bit stream; (Col 19 line 59 - Col 20 line 7; motion estimator interpreted as a decoder)

an encoder embodied as computer executable instructions on a computer readable medium that encodes a new scalable bit stream having a new base layer and a new

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enhancement layer, the new scalable bit stream having been derived from the original bit stream; and (Col 8 lines 15-49)

the new scalable bit stream having at least one of the new base layer encoding at least a portion of the original enhancement therein or the new enhancement layer encoding at least a portion of the original base layer therein having a new bandwidth range by encoding a decoded portion of the original scalable bit stream. (Col 1 lines 50-67; Col 8 lines 15-49)

As per claim 23, Wu discloses the system of claim 20, comprising an output module operable to communicate the new scalable bit stream to a device. (Col 21 lines 22-30)

As per claim 24, Wu discloses the system of claim 21, wherein said output module is operable to communicate a base layer of the original scalable bit stream to the device if a bandwidth of a link to the device is low. (Col 1 line 50-67, Col 8 lines 15-26)

As per claim 29, Wu discloses the system of claim 22, wherein said new base layer is encoded at a bit rate lower than the bit rate of the original base layer. (Col 8 line 57 – Col 9 line 7)

As per claim 30, Wu discloses the system of claim 22, wherein said new base layer and said new enhancement layer are based on analysis of a communications link with said device. (Col 8 lines 15-26)



As per claim 32, Wu discloses the system of claim 22, wherein the system of claim 22, wherein the new base layer is encoded at a bit rate higher than the bit rate of said original base layer. (Col 7 lines 17-35)

As per claim 33, Wu discloses the system of claim 22, wherein said decoder is operable to reconstruct original media from said original base layer and original enhancement layer, and said encoder is operable to generate the new base layer and the new enhancement layer based on said reconstructed media. (Col 7 lines 17-35)

As per claim 34, Wu discloses the system of claim 20, wherein said original scalable bit stream has an original enhancement layer, said decoder is operable to decode a portion of said original enhancement layer, and said encoder is operable to predict a next portion based on said decoded portion. (Col 7 lines 17-35)

As per claim 35, Wu discloses the system of claim 32, wherein the original scalable bit stream has a base layer, and wherein said encoder is operable to use motion vectors of said original base layer to predict the next portion. (Col 21 line 22-Col 22 line 9)

As per claim 36, Wu discloses a transcaling method comprising:  
receiving an original scalable bit stream having an original minimum bit rate over a communications network; (Col 19 lines 25-35; Col 19 line 59 - Col 20 line 7)

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the original scalable bit stream having an original base layer and an original base layer;  
(Col 5 line 63 – Col 6 line 10)

determining a new minimum bit rate; (Col 1 lines 50-67, Col 8 lines 15-49)

generating a new scalable bit stream having a new base layer and a new enhancement layer based on the original scalable bit stream and the determined new minimum bit rate, wherein the new minimum bit rate is either greater than the original minimum bit rate or less than the original minimum bit rate; and (Col 1 lines 50-67; Col 8 lines 15-49; Col 9 lines 27-38)

the new scalable bit stream having at least one of the new base layer encoding at least a portion of the original enhancement therein and the new enhancement layer encoding at least a portion of the original base layer therein. (Col 1 lines 50-67; Col 8 lines 15-49)

As per claim 37, Wu discloses the method of claim 34, wherein said receiving the original scalable bit stream comprises receiving an original scalable bit stream having an original base layer and an original enhancement layer. (Col 21 line 22-Col 22 line 9)

As per claim 38, Wu discloses the method of claim 35, wherein said generating the new scalable bit stream comprises generating a new base layer and a new enhancement layer based on said original base layer and said original enhancement layer. (Col 21 line 22-Col 22 line 9)

As per claim 39, Wu discloses the method of claim 35, wherein said generating the new scalable bit stream comprises: decoding a portion of said original enhancement layer for one picture; and predicting a next picture based on said decoded portion. (Col 21 line 22-Col 22 line

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9)

As per claim 40, Wu discloses the method of claim 34 further comprising analyzing links of devices connected to said communications network, wherein said determining a new minimum bit rate is further based on said analyzed links. (Col 21 line 22-Col 22 line 9)

As per claim 41, Wu discloses the method of claim 34, wherein said determining the new minimum bit rate comprises determining a new minimum bit rate that is higher than said original minimum bit rate, and wherein said generating the new scalable bit stream comprises generating the new scalable bit stream having the new minimum bit rate. (Col 21 line 22-Col 22 line 9)

As per claim 42, Wu discloses the method of claim 34, wherein said determining the new minimum bit rate comprises determining a new minimum bit rate that is lower than said original minimum bit rate, and wherein said generating a new scalable bit stream comprises generating a new scalable bit stream having the new minimum bit rate. (Col 21 line 22-Col 22 line 9)

As per claim 48, please see discussion under claims 9+10 as similar logic applies.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 25-28, 31 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (US 6,700,933) in view of Flinn / Satyanarayanan – hereinafter Flinn (Energy-aware adaptation for mobile applications, Operating Systems Review, 34(5):48-63, Dec 1999)

As per claim 6, Wu discloses the network node of claim 1. Wu fails to disclose a processing power evaluation module operable to evaluate an amount of processing power available to said transcaling module. Flinn discloses processing power evaluation module operable to evaluate an amount of processing power available to said transcaling module. (5.11, 5.12, 5.13, 5.14) The step of processing power evaluation operable to evaluate an amount of processing power available to the transcaling module is combinable and obvious with the disclosure of Wu for the motivation for selecting a correct tradeoff between energy conservation and application quality. (abstract)

As per claim 7, Wu / Flinn discloses the network node of claim 6 Wu fails to disclose wherein said transcaling module is operable to generate the new scalable bit stream having the new bandwidth range based on the amount of available processing power. Flinn discloses wherein said transcaling module is operable to generate the new scalable bit stream having the new bandwidth range based on the amount of available processing power. (3.2.2) The step of wherein said transcaling module is operable to generate the new scalable bit stream having the new bandwidth range based on the amount of available processing power is obvious and combinable with the disclosure of Wu for the motivation for selecting a correct tradeoff between energy conservation and application quality. (abstract)

As per claim 8, Wu / Flinn discloses the network node of claim 6. Wu fails to disclose wherein said output module is operable to transmit the original scalable bit stream downstream if the amount available processing power is low. Flinn discloses wherein said output module is operable to transmit the original scalable bit stream downstream if the amount available processing power is low. (3.2.2) The step of wherein said output module is operable to transmit the original scalable bit stream downstream if the amount available processing power is low is obvious and combinable with the disclosure of Wu for the motivation for selecting a correct tradeoff between energy conservation and application quality. (abstract)

As per claims 25-28, 31, and 46-47 please see the discussion under claims 6-8 as similar logic applies.

### **Conclusion**

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag R Patel whose telephone number is (571)272-7966. The examiner can normally be reached on Monday to Friday from 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Donaghue, can be reached on (571)272-3962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/C. R. P./  
Examiner, Art Unit 2441

/Larry D Donaghue/  
Primary Examiner, Art Unit 2454